Algebra 2
11.6 Analyzing Data

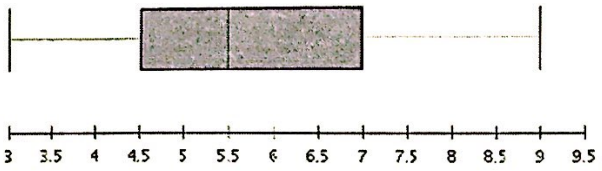
Name: KEY

Date: _____ **Per:** ____

Learning Target: I can understand and use a variety of data displays (box plot, histogram, and dot plot) to represent different sets of data.

Use the given box plots to answer the following questions. The box plots represent the results of two classes that took the same assessment.

1. Class 1



Minimum Value: 3

Lower Quartile (**Q1**): 3.75

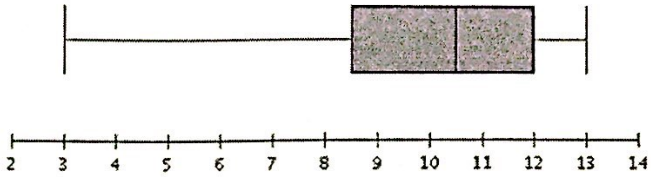
Median: 5.5

Upper Quartile (**Q3**): 8

Maximum Value: 9

Interquartile Range: 2.5

2. Class 2



Minimum Value: 3

Lower Quartile (**Q1**): 8.5

Median: 10.5

Upper Quartile (**Q3**): 12

Maximum Value: 13

Interquartile Range: 3.5

3. Susie, from class 1, took the assessment late. She scored a 12. Is this an outlier? Prove algebraically.

$2.5 \times 1.5 = 3.75$

$3.75 - 3.75 = 0$

$8 + 3.75 = 11.75$

$[0, 11.75]$

12 IS NOT AN OUTLIER

4. Which class' top 25% scored better? CLASS 2

5. What does the median tell you about both classes?

MIDDLE SCORE OF BOTH CLASSES

6. Professor Frankenstein teaches Calculus 1 at Oakton Community College in Skokie, IL. She just finished grading her finals for 1st semester. She wanted to analyze her 11 students to see how they compared to each other. Below are the grades for her students.

~~99~~, ~~95~~, ~~83~~, ~~89~~, ~~77~~, ~~66~~, ~~61~~, ~~54~~, 96, ~~51~~, ~~72~~

List the data from least to greatest.

51 54 61 66 72 | 77 83 89 95 99

74.5

Find the following.

Min: 51

Lower Quartile (Q1): 61

Median: 74.5

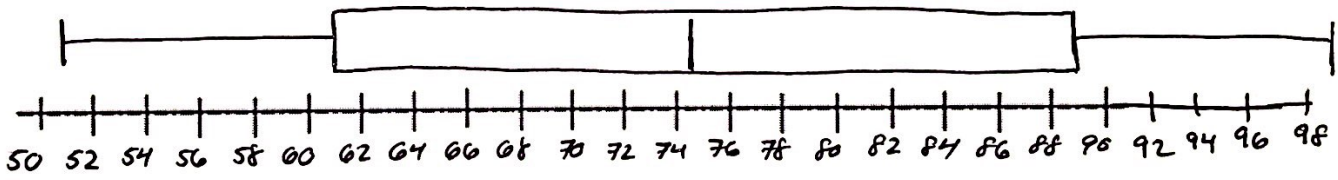
Upper Quartile (Q3): 89

Max: 99

Interquartile Range: 89 - 61 = 28

Construct a Box-Plot for Professor Frankenstein's calculus finals. Label all essential parts.

Title: PROFESSOR FRANKENSTEIN'S CALCULUS FINALS



7. The lower 50% of values fall between what two values? 51 - 74.5

8. The upper 75% of values fall between what two values? 89 - 99

9. John took the final early and received a 100. Professor Frankenstein forgot to grade it with the rest of the students. Is Johns score an outlier? Prove algebraically.

89 - 61 = 28

28 × 1.5 = 42

61 - 42 = 19

89 + 42 = 131

100 IS NOT AN OUTLIER